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BRITISH MEDICAL ASSOCIATION

ANNUAL MEETING, JULY 1927

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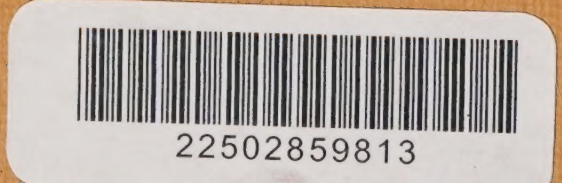

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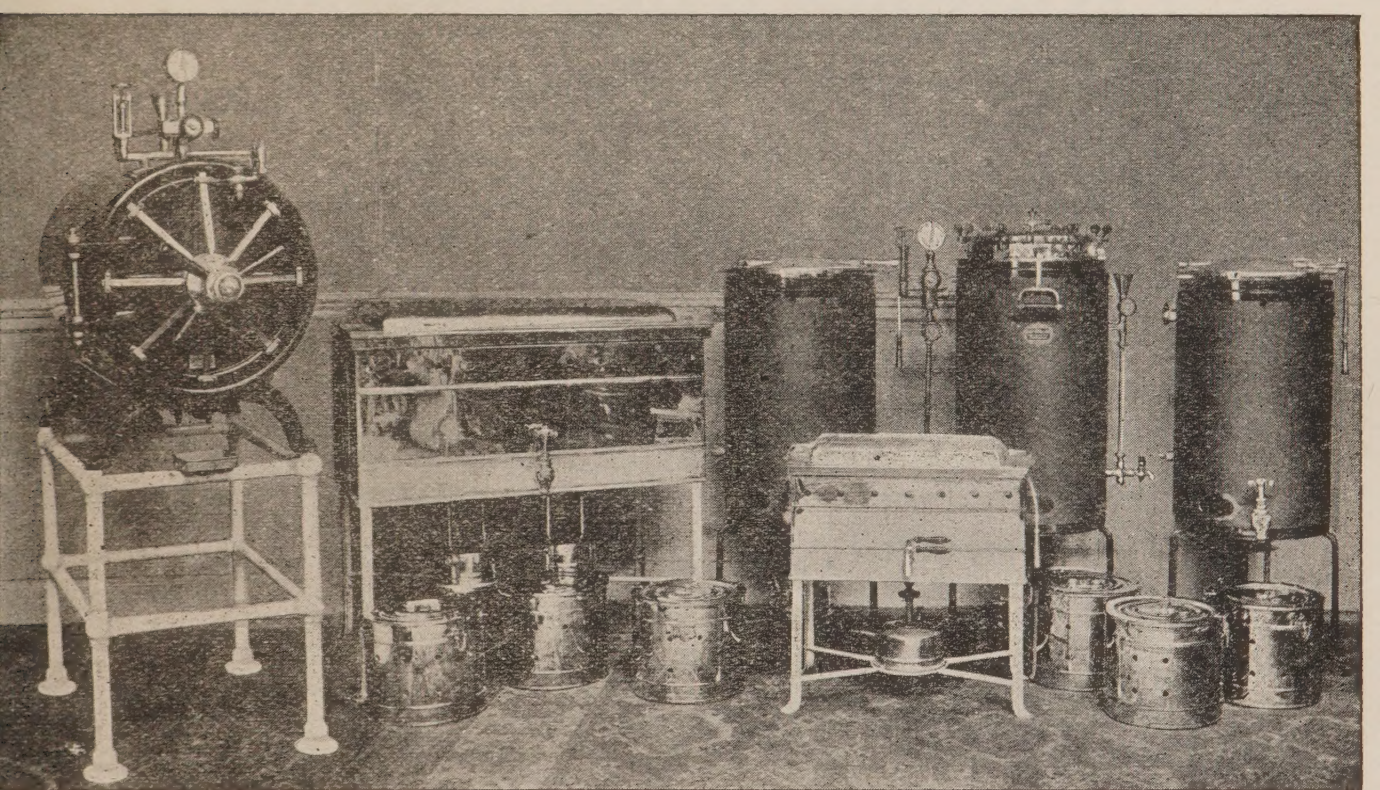

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CATALOGUE OF THE ANNUAL PATHOLOGICAL MUSEUM

British Medical Association

ANNUAL MEETING, EDINBURGH, JULY 1927

Catalogue of the Annual

Pathological Museum

in Anatomy Department

University New Buildings

Open during the Annual Meeting of the Association
Tuesday, July 19th, to Saturday, July 23rd

INTRODUCTORY NOTE

In the Museum there is a series of grouped exhibits, each group illustrating the investigation of a definite problem in medicine.

In the pages of the Catalogue, with the descriptive title of each group, there is given a general account of the problem to be illustrated.

Alongside the individual exhibits in the Museum there will be found cards on which full details are supplied.

Special attention is requested to the following arrangement :—Members who have contributed to the Museum have agreed to give personal demonstrations of their exhibits. An intimation of the time and place of these demonstrations will be made on the Notice Boards.

J. LORRAIN SMITH.

(For Demonstrations, *see page* 37.)

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I. DISEASES OF THE LIVER

Dr. James Davidson

A series of specimens illustrating different types of disease of the liver, with special reference to acute and sub-acute yellow atrophy, and atrophic cirrhosis.

Specimens of liver necrosis and cirrhosis produced experimentally in rabbits by coal tar are shown.

1. The conditions are similar to those found in acute yellow atrophy and atrophic cirrhosis in the human subject, and suggest that the changes observed in acute yellow atrophy, sub-acute yellow atrophy, and atrophic cirrhosis of the liver are different stages in one process.

2. The regenerated tissue is still susceptible to the irritant.

3. The arrangement of the cells in the regenerated tissue is irregular, and in some instances adenomatous growth occurs.

DISEASES OF THE GALL-BLADDER

Professor D. P. D. Wilkie

A series of specimens to illustrate the various types of pathology met with at operations on the gall-bladder.

1. The metabolic or single cholesterin stone :

   (*a*) without notable change in the gall-bladder ;
   (*b*) causing mucocele ;
   (*c*) causing empyema.

2. The combination stone, with secondary septic stones.

3. Chronic cholecystitis, with septic stones.

4. Cholesterosis of the gall-bladder, with the genesis of multiple cholesterin stones.

A series of case records showing the possibilities of X-ray diagnosis, the X-ray of the gall-bladder after removal, the naked-eye specimen, and the bacteriology in each case.

II. INTRACRANIAL AND SPINAL SURGICAL PATHOLOGY

Under the Charge of Mr. Norman M. Dott and Mr. W. Quarry Wood

This exhibit includes gross and microscopic specimens of glioma in various situations, meningioma, acoustic neuroma, angioma, hydrocephalus, pituitary adenoma, suprasellar cyst, etc. The microscopic sections of the gliomata may be of especial interest, as they exemplify the types of the recent classification of these growths by Cushing and Bailey, and are also accompanied by clinical histories, showing the relation of histological type to clinical behaviour. A special feature of the exhibit is a series of complete case records, including clinical history, X-rays and ventriculograms, operation notes, blood-pressure charts during operation, drawings of conditions found at operation, charts of visual fields before and after operation, gross and microscopic specimens, etc. In connection with this exhibit are also shown certain new instruments and appliances used for intracranial operations.

III. OSTEITIS FIBROSA

By Dr. James W. Dawson and Mr. John W. Struthers.

A series of specimens, drawings, radiographs, and microscopic preparations illustrating this disease.

IV. A SERIES OF CASES OF PULMONARY DISEASE IN CHILDREN, ILLUSTRATED BY PARAFFIN SECTIONS OF THE ENTIRE LUNG

By Dr. Charles M'Neil, Dr. W. A. Alexander, and Dr. Agnes Macgregor

The sections have been prepared by Mr. T. D. Hamilton, under the supervision of Dr. James Dawson, in the laboratory of the Royal College of Physicians, Edinburgh.

4. Lobar Pneumonia

1. W. T. (f.). 3 years. Ill 6 days. Consolidation of right upper and left lower lobes.
2. M. D. (m.). 10 months. Ill 3 weeks. Consolidation of right upper lobe and right lower (resolving).

B. Broncho-Pneumonia

3. R. A. (m.). $3\frac{3}{4}$ years. Measles 3 weeks before death. Wide dissemination, without confluence.

4. J. F. (f.). 1 year. Ill 12 days. Wide dissemination, with some confluence in right lung.

5. N. B. (m.). 1 year. Ill 4 weeks. Extensive irregular confluence in both lungs.

6. A. A. (f.). 7 months. Ill 8 days. Extensive confluence, mainly affecting bases.

7. R. M. (m.). $2\frac{1}{4}$ years. Ill 5 weeks. Massive confluence left lung. Early dissemination right lung.

8. G. M. (m.). $2\frac{1}{2}$ years. Ill 2 weeks. Massive confluence right lower lobe, with irregular extension to right upper lobe. Early bronchitis in left lung.

C. Broncho-Pneumonia with Bronchiectasis

9. P. H. (m.). 6 months. Ill 7 weeks. Widely disseminated broncho-pneumonia, with acute bronchiectasis in right upper lobe.

10. E. G. (f.). 2 years. Ill 6 weeks. Starting with measles and whooping-cough. Broncho-pneumonia, collapse, and bronchiectasis.

11. J. S. (f.). $1\frac{1}{4}$ years. Ill $2\frac{1}{2}$ months. More advanced bronchiectasis.

12. M. D. (f.). $1\frac{1}{4}$ years. Indefinite illness some months. Acutely ill 2 weeks. Bronchiectasis of some standing, with recent acute broncho-pneumonia.

13. M. L. (f.). 6 years. Chronic illness over 1 year. Acutely ill 1 week. Chronic bronchiectasis, with fibrosis, left lower lobe.

D. Empyema

14. E. M. (f.). $1\frac{3}{4}$ years. Ill $2\frac{1}{2}$ weeks. Acute empyema, broncho-pneumonia, abscesses in left lung. Early broncho-pneumonia, right lung.

15. J. M. (f.). $1\frac{3}{4}$ years. Ill 5 weeks. Empyema and resolving pneumonia in left lung. Right lung, acute broncho-pneumonia, infarction in upper lobe.

16. B. B. (f.). 9 months. Ill 6 weeks. Empyema more chronic, with broncho-pneumonia and abscesses, right lung. Early broncho-pneumonia and emphysema, left lung.

17. H. P. (f.). $1\frac{1}{2}$ years. Ill 12 weeks. Chronic empyema, left lung. Acute abscesses, right lung.

E. Gangrene

18. G. H. (m.). 6 years. Chronic illness 1 year ; acutely ill 2 weeks. Gangrenous areas with broncho-pneumonia in both lungs.

F. Pyæmia

19. H. W. (m.). 2½ years. Ill 36 hours ; osteomyelitis. Acute pyæmic abscesses in both lungs.
20. H. S. (f.). 10½ years. Ill 7 weeks ; pyæmia, ulcerative endocarditis. Septic infarcts in both lungs.

G. Tuberculosis

21. D. C. (m.). 1¼ years. Acute miliary tuberculosis.
22. D. C. (f.). 1¼ years. Ill about 5 weeks. Acute lymphatic spread tuberculosis in both lungs ; tuberculous right root glands.
23. A. B. (f.). 5 months. Ill 2 weeks. Acute pneumonic tuberculosis (exudative type).
24. P. M. (m.). 2 years. Ill 3 months. Massive proliferative tuberculosis (lymphatic spread) in relation to root.
25. L. F. (f.). 9 months. Ill about 4 months. Caseous root glands, with massive proliferative tuberculosis affecting whole right upper lobe.
26. C. W. (f.). 11 months. Ill about 4 months. Tuberculous root glands ; massive consolidation (proliferative), with apical cavity, right upper lobe. Acute lymphatic spread elsewhere.
27. R. H. (m.). 1½ years. Ill about 1 year. Extensive tuberculosis, proliferative and exudative, with cavities.

V. DISEASES OF THE THYROID GLAND

By Mr. J. N. J. Hartley

Thyroiditis

Inflammatory conditions of the thyroid, associated with gross changes in the gland, are relatively rare. The following types are illustrated .

1. Metastatic pyogenic.
2. Tuberculous.
3. Syphilitic.
4. " Woody " or Riedel's thyroiditis.

The last three, though not common, are of importance, because they are liable to be confused with malignant disease.

Goitre

For clinical purposes, goitrous enlargements are classified into—(1) Simple or Non-toxic, and (2) Toxic.

1. In Simple or Non-toxic Goitres there is no disturbance of general function, and the chief disability is one of deformity of the neck or mechanical interference with the respiratory passages, the pharynx and œsophagus, or the large veins of the neck. The simple goitre, however, predisposes to the development of malignant tumours, and the nodular or adenomatous goitre is prone to become "toxic."

The various pathological types are shown—parenchymatous, colloid, cystic, and nodular. Certain anatomical varieties are also illustrated, such as the mediastinal goitre, the lingual goitre, and the "ring" goitre.

2. Toxic Goitre.—This group is characterised by general manifestations due to an excessive or perverted function of the thyroid gland. Two main types are recognised: *A*. The exophthalmic or diffuse hyperplastic goitre; and *B*. The toxic adenomatous goitre. In both there is disturbance of the cardio-vascular system, with tachycardia, and a tendency to fibrillation of the heart. There is increased metabolism. Though the appetite may remain good, weight is lost. The skin is moist and readily perspires. There is nervous excitability, and the patient readily becomes fatigued by muscular exertion.

In exophthalmic goitre the thyroid shows diffuse hyperplasia. The symptoms develop, as a rule, within six months of the appearance of goitre. The symptoms increase in severity for six months or so, and then tend to diminish in severity. Such crises usually recur, and eventually give rise to permanent impairment of the cardio-vascular system. In exophthalmic goitre, eye symptoms are the rule.

In toxic adenoma there has usually been a nodular goitre for many years—5, 10, or 15 years—before general symptoms develop. The general manifestations are insidious in onset, and progress steadily without remissions. Eventually there is usually a cardio-vascular breakdown.

The clinical pictures of these two types of goitre, the naked eye and histological appearances of the thyroid, and the results of surgical treatment are illustrated by specimens and case records.

Malignant Tumours of the Thyroid

Much the commonest malignant tumour of the thyroid is the adeno-carcinoma. There is evidence that, in many cases, such a tumour arises in a pre-existing benign adenoma. The tumour tends to spread by local invasion, by permeation of the lymphatics, and by the blood-stream. The metastases by the blood-stream show a predilection for bone.

To demonstrate the lymph drainage of the thyroid gland, injected specimens have been prepared.

Other varieties of tumour are illustrated, *e.g.* the papilliferous cystic adenoma, the scirrhous carcinoma, sarcoma, and tumours arising in aberrant thyroid tissue.

VI. GYNÆCOLOGY AND OBSTETRICS

Under the Charge of Dr. Douglas Miller

A series of pathological specimens.

VII. RECENT EXPERIMENTAL WORK ON TUMOURS

Under the Charge of Dr. G. L. Alexander

1. Specimens of the *Rous spindle-cell sarcoma* of the domestic fowl (Plymouth Rock). Demonstration of results of intramuscular inoculation of cell-free saline extracts of the Rous sarcoma.

   Technique of preparing the filtrates.

2. Specimens illustrating the effects of *ultra-violet rays* on active filtrates, and showing that these effects are not due to toxic decomposition products resulting from irradiation.

   Technique of irradiation.

3. Series of cultures, showing the lethal effects of ultra-violet radiation on common micro-organisms in suspension in various media.

From the Strangeways' Hospital, Cambridge

1. Dr. Honor B. Fell and Dr. J. A. Andrews. A series of fixed specimens illustrating the cytology of Jensen's rat sarcoma, as revealed by the method of *in vitro* cultures.

2. Dr. Honor B. Fell. Fixed specimens of fowl embryos and *in vitro* cultures, demonstrating the direct and indirect effect of X-rays upon embryonic fowl tissue. (From joint work with the late Mr. T. S. P. Strangeways.)

3. Dr. Gordon Spear. Stained specimens, showing the effect of radium on cell division in tissue culture *in vitro*.

VIII. BACTERIOLOGICAL SECTION

Under the Charge of Professor T. J. Mackie

SPIROCHÆTES AND SPIROCHÆTAL DISEASES

Relapsing Fever. Lieut.-Col. Cunningham, I.M.S.

This exhibit consists of photographs, microscopic slides, and lantern slides, and is intended to illustrate the specific organism (*Sp. carteri*) and various features of the disease as seen in India. Serological studies of this infection are also illustrated.

Spirochætal Jaundice. Dr. George Buchanan, lately of Edinburgh, now of the South African Institute for Medical Research, Johannesburg.

The morphological characteristics of *Leptospira icterohæmorrhagica* in human and animal tissues, its mode of infection, and lesions of spirochætal jaundice, are demonstrated.

Treponema Pallidum; Treponema Cuniculi; Spirochætes associated with Disseminated Sclerosis. Dr. J. A. W. M'Cluskie of Glasgow.

A demonstration of—

Treponema pallidum in late syphilitic lesions, and of experimental infection in rabbits.

Treponema cuniculi—infection in rabbits.

Spirochætes in tissues, from cases of disseminated sclerosis.

Spirillum Minus (Spirochæta Morsus Muris). Dr. E. N. MacDermott and Professor T. J. Mackie.

A demonstration of the biological characters of the organism, isolated from a case of rat-bite fever in Scotland, and of the lesions produced in experimental animals.

Additional Exhibits illustrate various other spirochætal infections.

FLOCCULATION TEST FOR SYPHILIS.

A method for carrying out the flocculation test for syphilis (Bacteriology Department, Edinburgh University.)

PATHOGENIC STREPTOTHRICES

The exhibit consists of pathological specimens, human and animal, of microscopic preparations and cultures illustrating actinomycosis and certain other streptothrix and leptothrix infections. (Bacteriology Department, Edinburgh University.)

"CLUB" FORMATION BY BACILLUS TUBERCULOSIS (BOVINE TYPE) IN TISSUE OF EXPERIMENTAL ANIMAL. Dr. D. G. S. M'Lachlan.

PREPARATION OF VACCINES. Lieut.-Col. Harvey, I.M.S.

Large-scale preparation of cholera and typhoid vaccine at the Government of India Laboratory, Kasauli.

INTESTINAL FLORA. Dr. L. S. P. Davidson (Edinburgh).

Quantitative variations and quantitative methods.

BACTERIUM PNEUMOSINTES OF EPIDEMIC INFLUENZA; GLOBOID BODIES OF EPIDEMIC POLIOMYELITIS. Dr. J. E. M'Cartney of London.

'BACILLUS ANTHRACOIDES." Dr. A. M. M. Grierson.

Its biological similarities to, and differences from, the anthrax bacillus; relationship to the other members of the group of aerobic, gram-positive, sporing bacilli; pathogenic effects on animals.

BACILLUS DIPHTHERIÆ. Virulence Tests. Dr. A. M. M. Grierson.

A METHOD OF "PURIFYING" DICK TOXIN. Professor T. J. Mackie and Dr. D. G. S. M'Lachlan.

BACTERIOLOGICAL ILLUSTRATIONS. Mr. R. Muir.

A series of coloured plates illustrating the morphological characters of pathogenic micro-organisms.

THE COMPLEMENT DEVIATION TEST FOR TUBERCULOSIS. Dr. R. Norton, Department of Bacteriology, Royal Infirmary, Edinburgh.

IX. DIETETIC EXHIBIT

By Professor MURRAY LYON

IN THE DIETETIC DEPARTMENT OF THE ROYAL INFIRMARY (near main entrance to Surgical Wards): A representative exhibit of various diets in use in the Hospital will be displayed. Amongst these will be shown certain diets for diabetics, nephritics, cases of anæmia, obesity, etc.

X. UROLOGICAL SECTION

Under the Charge of Mr. HENRY WADE, Mr. D. M. MORISON, and Mr. R. LESLIE STEWART

A. A series of full sections of kidneys, removed at operation, to illustrate the various types and stages of surgical renal tuberculosis.

B. Selected sections illustrating other forms of renal disease.

C. X-ray photographs, etc., relative to the above.

D. A series of specimens and drawings illustrating Sir John Thomson Walker's opening paper on "Tuberculosis of the Kidney," to be read in the Section of Surgery.

THE RENAL CIRCULATION AS DEMONSTRATED BY THE CELLULOID CORROSION METHOD

(*a*) A series of preparations, obtained from the human fœtus (three months to full-term), illustrating variations in the mode of arterial distribution.

(*b*) Comparative studies of a few mammalian kidneys.

Throughout the series, injection has been made into the lower end of the thoracic aorta; the preparations accordingly show the complete renal supply on either side in relation to the abdominal aorta.

In a majority of the specimens, bilateral casts have simultaneously been made *in situ* of the ureter and pelvis, to illustrate the more intimate subdivisions of the renal artery in relation to these structures. The injection method employed graphically portrays the modifications of the arterial supply to the kidney during development, and emphasises the remarkable frequency of "accessory" renal arteries.

XI. DISEASES OF THE SKIN

Under the Charge of Dr. R. Cranston Low

1. Collection of casts illustrating the common diseases of the skin. This exhibit is of special interest to the general practitioner.
2. Collection of casts illustrating the rare diseases of the skin. This exhibit is of special interest to the dermatologist.

XII. HISTORY OF MEDICINE

Under the Charge of Dr. John D. Comrie

This exhibit is on view in the Upper Hall of the University Library.

Collection supplied by the Wellcome Historical Medical Museum for the Exhibition of the History of Medicine Section, B.M.A. Meeting, 1927

Phases in the History of Surgery.—Illustrated by means of instruments, showing their development from the prehistoric ages onwards.

Included are types illustrating the surgical armamentarium of Susruta; Greek, Roman, and mediæval instruments; groups showing the development of instruments used in blood-letting, craniotrypesis, etc. etc.

On the walls are illustrations taken mainly from period manuscripts, showing the development of surgical operations.

G. H. Edington, Esq., M.D., F.R.F.P.S.G., will give a demonstration upon "The Practice of Surgery in the Early Seventeenth Century as illustrated in the Writings of Maister Peter Lowe," in the Library Hall, on Wednesday, 20th July, at 11.30 a.m.

Collection of Engravings and Photographs, chiefly from the Royal College of Physicians, London, arranged by Dr. Arnold Chaplin, M.D., F.R.C.P.

These have been chosen to illustrate:

1. Celebrated Edinburgh doctors of the past.
2. Distinguished Scottish medical men.
3. Rare prints of other physicians and surgeons.

Dr. Arnold Chaplin will give a demonstration dealing with "Portraits of Celebrated Medical Men," on Thursday, 21st July, at 11.30 a.m.

Collection arranged by Dr. R. W. Innes Smith, showing—

1. Portraits of some celebrated graduates of the Edinburgh Medical School.
2. Collection of photographs of portraits of doctors painted by Sir Henry Raeburn.

Collection of Books and Manuscripts, arranged by F. C. Nicholson, Esq., M.A., Librarian to the University of Edinburgh, showing—

Various rare pictures and incunabula, manuscripts, etc., belonging to the University of Edinburgh.

Also portraits, etc., illustrative of the various Medical Schools.

DRIED SPECIMENS IN THE GENERAL PATHOLOGICAL MUSEUM

Exhibited by Dr. Robert A. Fleming

Dried Specimens which had belonged to the late Dr. D. Rutherford Haldane, and which had been mounted prior to 1870 (exact date unknown) for teaching purposes.

1. Aneurism of ascending aorta involving sternum and cartilages of ribs.
2. Generalised dilatation of arch of aorta.
3. Aneurism of ascending part of aortic arch.
4. Aneurism of ascending and transverse parts of arch.
5. Atheromatous disease of aorta with small aneurism.
6. Aneurism projecting into neck.
7. Aneurism projecting into neck.
8. Atheroma of mitral and aortic valves.
9. " Calcareous contraction " of mitral valve.
10. Atheroma of abdominal aorta and common iliacs.

XIII. PERITONEAL LYMPHATIC ABSORPTION

Mr. K. Paterson Brown

Specimens illustrating the paths of absorption from the peritoneal cavity of animals under varying conditions, obtained by injections of colloidal silver.

In rabbits, the colloidal silver rapidly appeared in the thoracic duct, while in cats and dogs absorption *via* the

thoracic duct was found to be a very slow and unimportant process. Drainage from the duct took place, even after its division in the neck, together with complete opening of the thorax and division of the phrenic nerves.

XIV. DEMONSTRATION OF THE LYMPHATICS OF THE LIVER OF THE GUINEA-PIG

Professor Lorrain Smith and Dr. Theodore Rettie

The lymphatics are seen as black structures accompanying branches of the portal vein.

These preparations are obtained from liver tissue after a period of autolysis for about a week. The lymphatic vessels are filled with globules of calcium and magnesium soaps produced by autolysis.

These globules under the polarising microscope show characteristic interference figures of a black cross on a clear ground.

XV. COMPARATIVE PATHOLOGY

Under the Charge of Principal Bradley and Professor Matheson

1. Series of specimens illustrating tuberculosis in the fowl.
2. Series of specimens illustrating tuberculosis in the cat.
3. Series of specimens illustrating foot-and-mouth disease.
4. Series of specimens illustrating glanders.
5. Series of three guinea-pigs showing lesions of tuberculosis after inoculation of material obtained from a goat.
6. Series of specimens illustrating comparative pathology.
7. Series of photographs and micro-photographs illustrating some neoplasmata from animals.

ON THE LUNG AND STOMACH WORMS OF THE CAT

By T. W. M. Cameron, Ph.D.

In 1865, Leuckart described from the stomach of the domestic cat a minute viviparous bursate nematode. He stated that the larvæ from the stomach passed to the exterior in the fæces, where they were ingested by mice in which they continued their development. Although the few experiments which he made were negative, he believed that the cat became

infected by eating the mice. Meanwhile, in 1890, Mueller described from the lungs of the cat a new species of lung-worm, the cause of a verminous pneumonia. He made no attempt to elucidate the life-history.

The present research shows that both species had been present in the original cat studied by Leuckart, and that the larvæ which he saw were those of the lung-worm (*Aelurostrongylus abstrusus*) and not those of the stomach-worm (*Ollulanus tricuspis*), as he believed.

The life-history of the stomach-worm is a direct one. The eggs hatch in the uterus of the female, and the larvæ, after moulting *in situ*, pass to the lumen of the stomach and reach the exterior in the vomit. There they are swallowed by another cat, and develop directly in the stomach, possibly passing part of their life-cycle in the mucosa of the stomach.

The larvæ of the lung-worms, on the other hand, pass to the exterior in the droppings, and are there swallowed by mice, in which they encyst. The cycle is completed by the mice being eaten by cats.

The material on which this work is based was mainly obtained from Edinburgh, where about 5 per cent. of the stray cats are infected. The exhibit shows the adults and larval stages of both species, and the effects of their presence on the stomach and lungs ; it is illustrated by actual specimens, micro-photographs, and drawings.

XVI. APPLICATIONS OF STATISTICAL METHODS TO EPIDEMIOLOGICAL PROBLEMS

Lieut.-Col. M'Kendrick and Dr. W. O. Kermack

Demonstration in the Laboratory of the Royal College of Physicians. (See Programme of Demonstrations, page 37.)

XVII. PATHOLOGICAL REPORTS PREPARED BY STUDENTS OF THE THIRD YEAR

Professor Lorrain Smith and Dr. James Davidson

The case method has been introduced to secure for the student sufficient training in the application and use of pathology.

The student, after due preparation, writes a full report on the pathology of a series of selected cases. The course extends

over two terms: six cases are worked out. The subjects taken up are such as the following:

1. Pyæmia and non-specific infection and inflammation.
2. Tuberculosis.
3. Pernicious anæmia.
4. Malignant tumour.
5. Atrophy of the liver and cirrhosis.
6. Nephritis.

Complete records are furnished, along with naked-eye and microscopic preparations from each case. The student, with any help he may require from the staff, works out the details of each organ and describes his observations. When this is completed, the members of the class, unaided and without further consultation with the teachers, write out a summary and general review of the case. The case is in this way made a text for discussing the problem of the disease in all its bearings, and particular attention is given to the co-ordination of pathological and clinical observations.

The case report and summary are read, criticised, marked, and returned to the student.

The advantages claimed for this method are:

1. The student, to the fullest possible extent, is working on his own initiative. In setting forth the grounds of his conclusions he learns criticism.

2. The problem presented by the case is taken up as a whole: the various observations are unified: the sequence of the primary and secondary changes in the development of the disease is defined. Pathology and clinical study are brought together.

3. To arrive at a conclusion which can be defended, much consultation of books and original papers, as well as discussion with teachers and fellow-students, are required. The method gives the teacher a good opportunity of encouraging independence of judgment on the part of the student, and the spirit of research.

For each case there is intensive study for a period of about three weeks.

XVIII. DISSEMINATED SCLEROSIS

By Dr. J. W. Dawson

Monograph published July 1914

The demonstration of disseminated sclerosis serves to bring out the salient histological features found in nine cases,

in some of which the brain and cord were examined in their entirety. The large sections of half-hemispheres of the brain demonstrate the involvement of the pyramidal tracts and the paths (afferent and efferent) related to co-ordination. "Plaques" in the optic paths, which give rise to early eye symptoms, are clearly seen. A noteworthy feature is the retention of the axis cylinder in sclerosed areas, which is demonstrated by specific stains.

The presence of areas in different stages of development is also characteristic of the histological picture ; and it is clearly shown that the lesions are topographically related to the blood vessels or their perivascular lymphatics.

XIX. DISEASES OF THE BREAST

By Professor JOHN FRASER and Mr. MERCER

A demonstration of the pathology of malignant tumours of the breast, as shown in whole section and in key block section examination. The exhibit is designed to show—

(*a*) The gross pathology of the disease ;
(*b*) The method of spread of the disease ; and
(*c*) Breast changes which arise secondary to the development of a malignant focus.

Points of particular interest in the morbid histology of the breast are illustrated by micro-photographs.

XX. THROMBO-ANGIITIS OBLITERANS

By Mr. T. M'W. MILLAR

The exhibit is designed to illustrate the pathology of this disease.

Several wet specimens show the trophic changes and gangrene which occur in the course of the disease, and illustrate well the extensive obliteration of the main vessels—both arteries and veins.

Coloured drawings of some of the specimens show more clearly the appearance of the parts before amputation had been performed.

A series of micro-photographs illustrates the microscopic changes which occur in the affected vessels :

There is, first, the acute stage, in which the affected vessel becomes the seat of what appears to be an acute inflammatory change, and thrombosis occurs in the lumen.

Second, the development in the thrombus of peculiar "septic" foci, or miliary abscesses.

Third, the organisation of the thrombus and its septic foci, and during the organisation of the latter their conversion into "miliary giant cell foci." The appearance of the latter is said to be specific for the disease.

Fourth, the end result of the disease—the vessels completely occluded, with fibrous tissue, more or less a-cellular, containing blood pigment, and often re-canalised to a varying extent. The vessel walls are altered by fibrosis or vascularisation, and the perivascular development of fibrous tissue which binds together the arteries and veins and sometimes also embraces the accompanying nerve.

XXI. PLASTIC SURGERY

Under the Charge of Mr. J. J. M. Shaw

A series of photographs, etc., illustrating plastic surgery.

XXII. PATHWAYS OF INFECTION TO THE BRAIN, MENINGES, AND VENOUS BLOOD SINUSES FROM NEIGHBOURING PERIPHERAL FOCI OF INFLAMMATION

By A. Logan Turner, M.D., and F. E. Reynolds, M.B.

The demonstration illustrates three pathways :

1. *Direct Infection through the Bone.*—As there is no case in the series actually demonstrating this method of infection of the meninges, the identical process is exemplified in the orbital wall of the ethmoidal air-cells in a case in which the infection spread from the mucosa through the bone with the formation of a subperiosteal orbital abscess.

2. *Infection by Way of the Venous Blood Stream.*—In the case illustrating this route, the infection spread from a furuncle in the right nasal vestibule along the ophthalmic system of veins to the cavernous blood sinus. From the latter, by a process of retrograde septic venous thrombosis, secondary leptomeningitis and widespread osteomyelitis in the sphenoid bone occurred.

3. *Infection by Lymphatic Channels.*—This route is demonstrated in the perineural lymph sheaths of the olfactory nerve filaments. Following injury to the lymph sheaths during an intranasal operation upon the ethmoidal air-cells, infection reached the pia-arachnoid spaces and produced acute leptomeningitis.

In each instance the material was obtained at autopsy by removing a block of bone containing the nasal, ethmoidal, and sphenoidal air cavities and their adnexa, decalcifying and cutting in coronal serial sections.

XXIII. EXPERIMENTAL PRODUCTION OF ACCIDENTAL HÆMORRHAGE AND PLACENTAL INFARCTION

By Professor F. J. Browne

Rabbits were used in these experiments.

The first specimen shows retroplacental hæmatoma produced in a rabbit twenty days pregnant by injection of a culture of bacillus pyocyaneus in saline into the veins of the ear. Profuse external hæmorrhage was also produced in this case. On examination of the kidneys it was found that there was acute inflammation affecting the convoluted tubules and, to a less extent, the glomeruli. There was in the kidneys also a certain amount of chronic interstitial change. Efforts to repeat this result were unsuccessful.

As chronic nephritis in the human female seemed to be clinically a frequent precursor of accidental hæmorrhage, it was thought that if chronic nephritis could be produced in rabbits, and toxins or bacteria introduced at the twentieth day of pregnancy, it might be possible to produce accidental hæmorrhage. Accordingly, nephritis was produced before pregnancy by repeated injections of non-lethal doses of a solution of sodium oxalate, estimating the blood urea at frequent intervals. At the twentieth day of pregnancy another injection of sodium oxalate was given plus bacillus pyocyaneus. Placental infarction (see mounted specimen 2) was produced in every case with external accidental hæmorrhage, and hæmorrhage and œdema of the uterine wall. Sections are shown illustrating the changes in the kidneys in the artificially-produced oxalate nephritis, the placental infarctions, and the hæmorrhage in the uterine wall. The experiment seems to show that accidental hæmorrhage in pregnant women is of toxæmic origin, and that nephritis is an important predisposing cause.

XXIV. PARASITOLOGY (INCLUDING TROPICAL)

This exhibit is on view in the Laboratory of the Royal College of Physicians, 2 Forrest Road

Under the Charge of Colonel GREIG, Professor ASHWORTH, and Colonel LISTON

The exhibit has been designed to illustrate recent advances in our knowledge of tropical parasitology and disease in regard to—

1. Malaria.
2. Amœbic dysentery.
3. Kala-azar.
4. Schistosomiasis.
5. Myiasis.

In addition to Edinburgh, contributions will be sent from the London, Liverpool, and Calcutta Schools of Tropical Medicine ; from the Kala-Azar Commission in Assam ; from Dr. Hamilton Fairley, of Melbourne and Bombay. The exhibit will be of a very representative character.

The subjects have been chosen to interest both the practitioner in this country and in the tropics. Thus the subject of MALARIA is becoming increasingly important in regard to the recent method of treatment of general paralysis of the insane by infection with the malarial parasite. The importance of the subject to the practitioner in the tropics does not need to be emphasised. Cases of AMŒBIC DYSENTERY are met with not infrequently in the course of practice in this country in patients returning from overseas, and, consequently, a knowledge of recent work on this disease must be of value to the practitioner. Of great scientific and practical interest is the recent work on the mode of transmission of KALA-AZAR, a disease which occurs not only in the tropics, but also in certain parts of Europe as well. Very important additions to our knowledge of the parasitology of SCHISTOSOMIASIS have been made in recent years. These advances have placed the prevention of this disease on a scientific footing with very satisfactory results. MYIASIS has been the subject of recent research, and the results obtained have materially helped the prevention of this serious disease.

It is essential that recent knowledge of tropical parasitology should be made as widely known as possible with a view to its practical application in the prevention and treatment of tropical disease. It is hoped that the exhibit will help towards these ends.

Finally, the exhibit will illustrate the two subjects—MALARIA and AMŒBIC DYSENTERY—which are to be discussed at the meeting of the section of Tropical Diseases, so the members attending the section will be able to study fully in the Museum the specimens referred to in the discussion, and have demonstrations on them, including the culturation of *Entamœba histolytica*.

DETAILS OF EXHIBITS. (As received up to date.)

FROM THE LONDON SCHOOL OF HYGIENE AND TROPICAL MEDICINE

1. *Dr. P. Manson-Bahr*

1. Coloured drawings of sections and scrapings from cases of amœbic dysentery.
2. Coloured drawings of sigmoidoscopic appearances in amœbic dysentery and allied conditions.

2. *Exhibit, School of Hygiene and Tropical Medicine*

Photographs, drawings, models, samples of material, etc., illustrating malaria and its prevention.

FROM THE KALA-AZAR COMMISSION, ASSAM

Major H. E. SHORTT, Director

1. Sandfly breeding pots.
2. Sandfly breeding saucers.
3. Sandfly egg-laying jar.
4. Sandfly food (rabbits' fæces and blood).
5. Test tubes with ova of *Phlebotomus argentipes* laid on wool.

6–43. *Microscopic Slides*, showing all stages of *Phlebotomus argentipes* from egg to adult. Sections of heavily-infected flies, supposedly infective stage.

44, 45. Wall diagrams illustrating the life-cycle of *L. donovan* body in fly.

46–49. Photographic enlargements illustrating the work of the Kala-Azar Commission.

92–97. Pinned specimens, *Phlebotomus argentipes*.

FROM LIEUT.-COL. E. D. W. GREIG, EDINBURGH

Series of charts illustrating the effect on temperature, etc., of injection of blood containing benign tertian MALARIAL

PARASITES, in cases of general paralysis of the insane, etc. Also the effects following the bites of Anopheline mosquitoes infected with benign tertian malarial parasite.

FROM PROFESSOR W. S. PATTON, LIVERPOOL UNIVERSITY.

Exhibit illustrating MYIASIS.

FROM PROFESSOR WARRINGTON YORKE and DR. A. R. D. ADAMS, LIVERPOOL SCHOOL OF TROPICAL MEDICINE

Exhibit illustrating AMŒBIC DYSENTERY.

FROM PROFESSOR ASHWORTH, EDINBURGH

Map illustrating the distribution of Anopheles in Scotland so far as at present known.

Mounted specimens of British Anopheles.

FROM DR. HAMILTON FAIRLEY, BOMBAY AND MELBOURNE

Schistosomiasis

Part I. deals with the life-cycle and experimental pathology of the Egyptian Schistosomes. Part II. with the experimental pathology of *S. spindalis*, and serology of *S. spindalis* in monkeys, goats, and buffaloes.

FROM THE SCHOOL OF TROPICAL MEDICINE, CALCUTTA

Dr. NAPIER

Exhibit illustrating recent work on KALA-AZAR.

Major K. KNOWLES

Exhibit illustrating DERMAL LEISHMANIASIS, MALARIA, and AMŒBIC DYSENTERY.

XXV. DISEASES OF EAR, NOSE, AND THROAT

Under the Charge of Dr. J. S. FRASER and Dr. J. P. STEWART

The following exhibit is on view in the Ear, Nose, and Throat Department of the Royal Infirmary, on Wednesday and Thursday, 20th and 21st July.

Various specimens and water-colour drawings are exhibited. These specimens illustrate anatomical abnormalities and pathological conditions affecting the nose, paranasal sinuses, larynx, and ear.

XXVI. SECTION OF VENEREAL DISEASES

Under the Charge of Mr. David Lees

The specimens exhibited in this section consist of—

1. Plaster casts in colour, illustrating the early, intermediate, and late manifestations of cutaneous syphilis.
2. Plaster casts in colour, illustrating the skin manifestations of gonococcal infection, such as keratodermia blenorrhagica.
3. Series of plaster casts showing the deformities of the teeth and of the palate in inherited syphilis.
4. Series of photographs illustrating the various manifestations of acquired and inherited syphilis.
5. Series of X-ray plates showing the intra-thoracic manifestations of syphilis and the effect of treatment on the pulmonary lesions of syphilis.
6. Series of X-ray plates showing various bone and joint lesions in acquired and inherited syphilis.
7. Post-mortem specimens illustrating the lesions of syphilis.

The exhibit will also include a microscopic demonstration of the Diagnosis of Gonococcal and Syphilitic Infection by Dr. Paton, Assistant Clinical Pathologist, R.I.E.; and

A demonstration of the Colloidal Gold Reaction in the Cerebro-Spinal Fluid by Dr. W. R. Logan, Clinical Pathologist, R.I.E.

XXVII. DISEASES OF THE EYE

Under the Charge of Dr. H. M. Traquair and
Dr. Chas. Graham

The following exhibit is on view in the Ophthalmological Department of the Royal Infirmary.

Dr. Laura M. Ligertwood

1. Series of original paintings illustrating eye conditions. (From Dr. Paterson's Clinic.)
2. Specimen of glioma retinæ.

Dr. R. A. Fleming

1. Sections of optic nerve from cases of—
   - (*a*) Multiple sarcomata situated in the cerebellum.
   - (*b*) Gumma of right occipital lobe.
   - (*c*) Gumma of right occipital lobe.
   - (*d*) Albuminuric papillitis.
   - (*e*) Advanced optic atrophy. (Case of locomotor ataxia.)
   - (*f*) A normal optic nerve for comparison.

Dr. George Mackay

1. Eleven coloured drawings illustrating affections of the lachrymal apparatus.
2. Twenty-seven coloured drawings illustrating phlyctenular disease and episcleritis.
3. Six coloured drawings illustrating various eye diseases.
4. A native Indian couching needle as used in a North-West Frontier province of India.
5. Dark protecting spectacles made in China, and glazed with cairngorm.
6. A wax cast of a Roman oculist's medicine stamp.
7. Mounted specimen of melanotic sarcoma of the choroid.
8. Mounted specimen of pseudo-glioma.
9. Specimen test card presenting white type on black background for supplying increased retinal stimulation, for instance, in incipient cataract.

Dr. Ida C. Mann

1. A series of drawings of the developing retina in various classes of vertebrates.

Dr. J. V. Paterson

1. A group of naked-eye preparations.
2. A series of paintings illustrating certain eye diseases.
3. A series of micro-photographs and lantern slides.

Dr. A. Maitland Ramsay and Dr. A. Garrow

1. A series of autochromes illustrative of diseases of the eye.

Dr. A. H. H. Sinclair

1. Two sections showing zonule.
2. Two sections showing exciting eyes in sympathetic ophthalmia.
3. Four sections of gliomata of the retina.
4. Drawing of implantation cyst of iris and microscopic slides from the same specimen.
5. Implantation cyst of iris, macro- and microscopic preparations.
6. Drawing of sub-conjunctival dislocation of the lens.
7. Section of eye showing lens dislocated under conjunctiva.
8. Three drawings of two cases of depigmentation of the irides.
9. Cataractous lenses in capsule removed by operation.
10. Instruments for the intracapsular extraction of cataract.
11. Demonstration of pendulum test for binocular vision, Pulfrich's phenomenon.
12. Photograph of portrait of Dr. Argyll Robertson.

Dr. W. G. Sym

1. Sketch ("A Spring Scene"), by a colour-blind artist.
2. Six scenes, coloured with unnamed pigments, as nearly as possible, by six colour-blind persons.
3. Several pairs of Chinese spectacles, some stated to be two hundred or more years old.

Dr. Ernest Thomson

1. Four rabbit skulls, illustrative of experiments to show the influence of the eye on the growth of the orbit. (Reference *T.O.S.*, 1901, vol. xxi. p. 258.)

Dr. H. M. Traquair

1. Three anatomical preparations illustrating the normal relations of the pituitary body and the chiasma.
2. Two sets of sections through the base of the skull, illustrating the anatomy of the optic canals, post-nasal sinuses, cavernous sinuses, and overlying visual path.
3. Preparation illustrating syphilis of the pituitary region.

4. Specimen of optic chiasma, with anatomically separate anterior commissure with pituitary tumour, which caused bitemporal hemianopia.
5. Pituitary tumour which caused bitemporal hemianopia.
6. Specimen showing indentation of the third nerve by tentorium in third nerve paralysis from pituitary tumour.
7. Specimen showing the normal relationship of the third nerve to the tentorium.
8. Sections of hydrops of the optic nerve sheath from a case of renal disease.
9. Specimen showing peripheral choroidal retinal adhesion illustrating the formation of a tear in the retina.
10. Specimen of necrosing glioma retinæ.
11. Photographs and drawings of various cases.
12. Perimeters.

Dr. C. H. Usher

1. Tumour of the optic nerve.
2. Tumour invading both optic nerves.
3. Large orbital growth from a case of Recklinghausen's disease.

XXVIII. RADIOLOGICAL EXHIBIT

Under the Charge of Dr. J. M. Woodburn Morison

Exhibit of prints from radiograms illustrating—

1. Diaphragmatic hernia.
2. Cancer.
3. Fractures and displacements of bones.
4. Diseases of bone.
5. Abnormal calcifications.
6. Accessory bones of foot.
7. Lipiodol injections.

XXIX. VEGETABLE PATHOLOGY

Under the Charge of Dr. Malcolm Wilson

The exhibit consists of living plants showing tumour formation.

The following organisms causing tumour formation in plants are shown—

Bacillus tumefaciens.
Plasmodiophora Brassicæ.
Sorosphaeræ Veronicæ.
Exobasidium Rhodondendri.
Exoascus aureus.

Also cultures and specimens of the pathogenic Aspergilli.

XXX. GENETICS

Under the Charge of Dr. F. A. E. Crew

1. Selected illustrations of the modes of organic inheritance, from domesticated animals and plants.
2. Specimens illustrating certain hereditary conditions, *e.g.* inter-sexuality.
3. Human pedigrees illustrating the various modes of organic inheritance of normality and abnormality, with special reference to the inheritance of disease.

XXXI. ELECTRO-CARDIOGRAPHY

Under the Charge of Dr. W. T. Ritchie

A series of Electro-cardiograms illustrating right and left ventricular preponderance, respiratory arrhythmia, extra-systoles, sino-auricular block, various grades of A.V. block, bundle branch block, paroxysmal tachycardia, auricular flutter, auricular fibrillation, nodal rhythm, and coronary thrombosis.

XXXII. MEDICAL ARTISTRY

Under the Charge of Mr. Norman M. Dott

Exhibition of original drawings of gross and microscopic pathological, clinical, surgical, and anatomical subjects, in colour, wash, line drawing, etc., by artists from some of the principal Medical Schools.

XXXIII. DISEASES OF CHILDREN: Selected Specimens illustrating the Discussion on Intestinal Obstruction in Childhood

The exhibit includes : Drawings representing the embryological development of the intestine, errors of intestinal rotation, and volvulus resulting therefrom. A specimen of "volvulus neonatorum" and a drawing of the condition as found at operation are shown. Three examples of successfully resected intussusceptions show the anatomy and pathology of the condition, and are accompanied by clinical notes of the cases. An example of Hirschprung's disease will also be shown.

XXXIV. DISEASES OF THE TESTICLE

By Professor FRASER and Mr. MERCER

A series of specimens illustrating pathological conditions which cause enlargement of the testicle.

XXXV. MALIGNANT DISEASE OF THE LARGE BOWEL

By Mr. MERCER and Mr. T. McW. MILLAR

DEMONSTRATIONS

There will be a series of personal demonstrations on exhibits in the Museum and adjoining rooms by those who have contributed specimens. An intimation of the time and place of these demonstrations will be posted.

In addition to these, there will be demonstrations in the Surgical Research Department, Edinburgh University, and in the Laboratory of the Royal College of Physicians, Forrest Road, as follows :

SURGICAL RESEARCH DEPARTMENT

On Wednesday, July 20th, from 3 to 4 p.m., demonstrations on various problems of research will be given by the individual workers. The following subjects will be illustrated :

Upper Floor

By Mr. J. J. M. Shaw.

PROTECTION AGAINST CANCER BY EPITHELIAL AUTOGRAFTS

Determination of protective effect of epithelial autografts against cancer in mice. Protection by epithelial implant from ear (four series) and tail (two series), to axilla, with aseptic precautions.

Three series of protected mice treated against an equal number of controls for response to inoculation of mouse carcinoma (M. 63). Three series of protected mice treated against an equal number of controls for response to prolonged tarring. Similar experiments in rabbits : protective implant obtained from skin of abdomen. Investigation still proceeding. Grounds for belief that some protection is afforded.

By Mr. Bruce M. Dick.

EFFECT OF TAR APPLICATIONS TO MUCOUS MEMBRANES

Demonstration of rabbits to illustrate a new method of studying the effect of coal-tar applications on the mucous membranes of the alimentary canal.

Specimens and sections of stomach, appendix, and uterus to show the effects after six months.

By Mr. Bruce M. Dick and Dr. Victor G. H. Wallace.

TOXIC EFFECTS OF SODIUM TETRAIODOPHENOLPHTHALEIN

Demonstration of specimens and microscopic slides to show the toxicity of sodium tetraiodophenolphthalein on the liver, pancreas, and kidney. Specimens to illustrate the production of acute pancreatitis by means of bile containing the drug.

By Mr. David Band.

Demonstration in Operating Theatre (No. 1) of Pneumectomy.

By Mr. W. C. Wilson.

Demonstration in Operating Theatre (No. 2) of Cardiac Surgery.

By Mr. Duncan M. Morison.

1. THE RENAL CIRCULATION

Demonstration of the finer distribution of the renal circulation, with special reference to the blood supply of the medulla (celluloid corrosion method).

2. REABSORPTION FROM RENAL PELVIS

An experimental study, in the rabbit, of reabsorption from the totally obstructed renal pelvis, as shown by dyes introduced—

(*a*) At the time of ureteral obstruction, and

(*b*) After varying periods of hydronephrosis.

By Mr. K. Paterson Brown.

PERITONEAL LYMPHATIC ABSORPTION

Specimens illustrating the paths of absorption from the peritoneal cavity of animals under varying conditions obtained by injections of colloidal silver.

In rabbits the colloidal silver rapidly appeared in the thoracic duct, while in cats and dogs absorption *via* the

thoracic duct was found to be a very slow and unimportant process. Drainage from the duct took place, even after its division in the neck, together with complete opening of the thorax and division of the phrenic nerves.

Lower Floor

By Mr. R. Leslie Stewart.

EXPERIMENTAL RENAL INFECTION.

Specimens and microscopic preparations to illustrate—

(*a*) Artificial ascending infection of the kidney ;

(*b*) Attempted secondary infection in the opposite kidney induced by the direct injection of foreign material.

By Mr. David Band.

PNEUMECTOMY

Transverse sections of thorax of rabbits after pneumectomy. Frozen and cut with viscera *in situ*.

By Dr. G. L. Alexander.

1. Effect of ultra-violet rays on Rous sarcoma filtrates.

2. Demonstration of some biological effects of ultra-violet rays.

By Mr. C. F. W. Illingworth.

Demonstration of experimental work on Rous chicken sarcoma.

ROYAL COLLEGE OF PHYSICIANS LABORATORY

By Mr. T. Hamilton.

Histological demonstration of technique of large section cutting.

PRECIPITATION TEST FOR SYPHILIS

By Dr. Kermack and Mr. Voge.

Gum benzoin test in C.S.F. and serum, with demonstration of ultra microscope.

By Lieut.-Colonel Liston and Miss Kean.

The Sigma Test.

By Drs. Lambie, Kermack, and Slater.

Intermediary metabolism of carbohydrates, proteins, and fats.

By Dr. J. S. Fraser.

Histology of the inner ear and auditory nerve.

By Lieut.-Colonel M'Kendrick and Dr. Kermack.

Epidemiological demonstration.

By various contributors, as above.

Parasitology, including tropical.

History of Medicine Section

In Upper Library Hall, Old University.

Demonstration by Dr. G. H. Edington, on 20th July, at 11.30 a.m.

Subject—The Practice of Surgery in the Early Seventeenth Century.

Demonstration by Dr. Arnold Chaplin, on 21st July, at 11.30 a.m.

Subject—Portraits of Celebrated Medical Men.

Cinematograph Demonstration on Tissue Growth

In the section of Pathology and Bacteriology there will be on Wednesday, 20th July, a discussion on "Growth in its Pathological Relations." In connection with this, Dr. R. G. Canti, of St. Bartholomew's Hospital, London, will give a cinematographic demonstration on "A Study of Living Tissue growing *in vitro*," at 12 noon. In order to give members attending other sections an opportunity of seeing the film, Dr. Canti has kindly agreed to give a demonstration on Tuesday, 19th July, at 12 noon, and on Thursday, 21st July, at 2 p.m.

The film will be shown in the Operetta House, Chambers Street, on each occasion.

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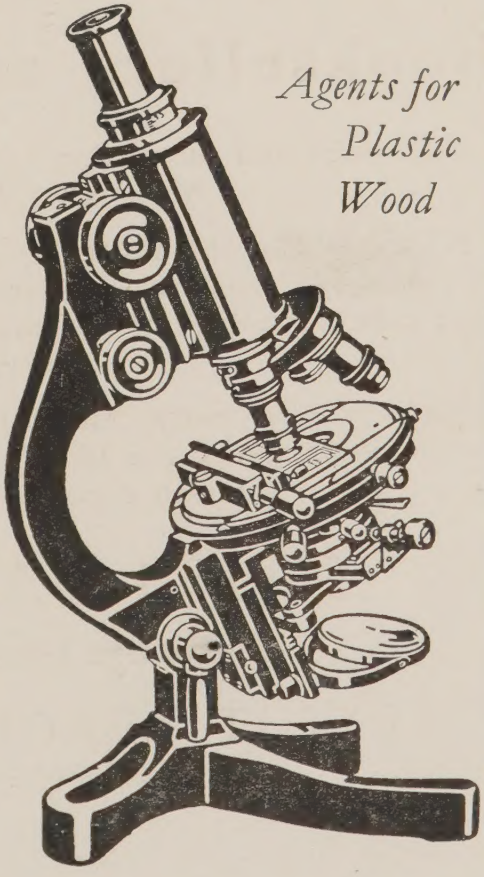

Microscopes by LEITZ, REICHERT, and ZEISS

Microscope Accessories

Stains and Reagents for Microscopy

Bacteriological Apparatus

Repairs executed